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Columbia Falls Aluminum Company
P. O. Box 10
Columbia Falls, Montana 59912
Telephone 406 892-3261

April 10th, 1989

Mr. John Arrigo
Department of Health and Environmental Sciences
Water Quality Bureau
Cogswell Building
Helena, Montana 59620

Dear Mr. Arrigo:

The Columbia Falls Aluminum Company is proposing to make changes in a portion of the plant for which a MGWPCS permit has been issued. The purpose of this letter is to inform you of these changes.

The anode portion of the electrolytic cell is made at the paste plant. Petroleum coke and heated coal tar pitch are mixed in five mixers and then extruded into anode briquettes. Off-gasses from the mixers are scrubbed in a water spray chamber. Extruder off-gasses are vented directly to the atmosphere. Materials of significance in the gasses are petroleum coke fines, coal tar pitch light end gasses and condensed pitch fumes.

The water slurry from the mixer gas scrubbing is discharged to the north percolation pond. This water is combined with anode briquette contact cooling water prior to discharge into the pond. The contact cooling water has no significant amounts of either coke solids or hydrocarbon.

The following figures provide information on the composition of our current air emissions and water discharges:

	<u>Mixer Off-gas</u>	<u>Extruder Off-gas</u>
Volume DSCFM	1450	2048
Temp °F	97	112
Particulate Loading mg/scf	41.07	3.18
% Pitch Volatiles	10.8	100.0
Emission Rate lbs/day	181	36

Mixer Scrubbing Slurry

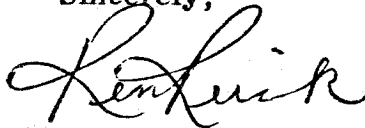
Water Discharge Rate	52,000 gal/day
Particulate Loading	7.9366 gm/gal
Hydrocarbon Loading	0.3562 gm/gal
Particulate Mass Emission Rate	912 lb/day
Hydrocarbon Mass Emission Rate	179 lb/day

The proposed change in the paste plant operation will involve the mixer and extruder off-gasses. Both off-gasses will be ducted to a wet scrubbing system. This system is manufactured by Entoleter Corporation and is called a Centrifield dynamic vortex wet scrubber.

Although the system will clean extruder off-gas and the scrubbing efficiency will increase from about 50% for the present mixer off-gas water spray to 99%, the net amount of particulate and hydrocarbon that will be discharged to the north percolation pond will actually decrease. This will be the result of a substantial decrease in emissions from the mixers. It is anticipated that the particulate and hydrocarbon emission rate will be reduced to 289 and 152 lbs/day, respectively.

If you need any more information, please contact me.

Sincerely,



Kenneth G. Reick
Environmental Supervisor

bc: D. F. Ryan
T. F. Payne
A. B. Barkley